



SOUTH CAROLINA ELECTRIC & GAS COMPANY
Cayce, South Carolina

Historic Structures Visual Impact Assessment Report
for the
Graniteville #2 - South Augusta 230 kV Tie Line and
Urquhart - Graniteville 230 kV Line

October 2014
(Updated August 2017)

Prepared for SCE&G by:
UC Synergetic
Facilities Planning & Siting Division
123 North White Street
Fort Mill, South Carolina 29715
(803) 835-7929

TABLE OF CONTENTS

I. Visual Impact Assessment Study Methodology	3
Figure 1 Cultural Resource Visual Impact Assessment Process	
II. Graphic Interpretation of the Visual Probability Analysis.....	6
Figure 2 Topography	
Figure 3 Mature Vegetative Cover	
Figure 4 Resulting Surface	
III. Graphic Explanation of View Analysis Profiles	8
Figure 5 Profile Graph Example	
Figure 6 Profile Graph Example (Visualization)	
IV. Study Area Mapping Including Historic Resource Locations.....	9
Figure 7 Historic Resource Vicinity Map	
Figure 8 Historic Resource Vicinity Map – Area 1	
Figure 9 Historic Resource Vicinity Map – Area 2	
Figure 10 Historic Resource Vicinity Map – Area 3	
Figure 11 Historic Resource Vicinity Map – Area 4	
V. NRHP Listed Sites (3)	14
The Cedars (Cert. 19930617)	
Oakland Plantation	
Warrenville Elementary School (Cert. 20020522)	
VI. NRHP Listed Districts (2)	20
Aiken Winter Colony Historic District I (Cert. 19841127)	
Graniteville Historic District (Cert. 19780602)	
VII. NRHP Eligible Sites (12)	24
Ws01	
Ws02	
Ws03	
Ws04	
Ws05	
Ws07	
Ws08	
Beech Island Presbyterian Church (0327)	
Seaboard Coast Line Railroad Bridge (0278)	
Flat Rock Dam (202 0568)	
Beech Island Baptist Church (0364)	
Unnamed Resource 1 (0367)	

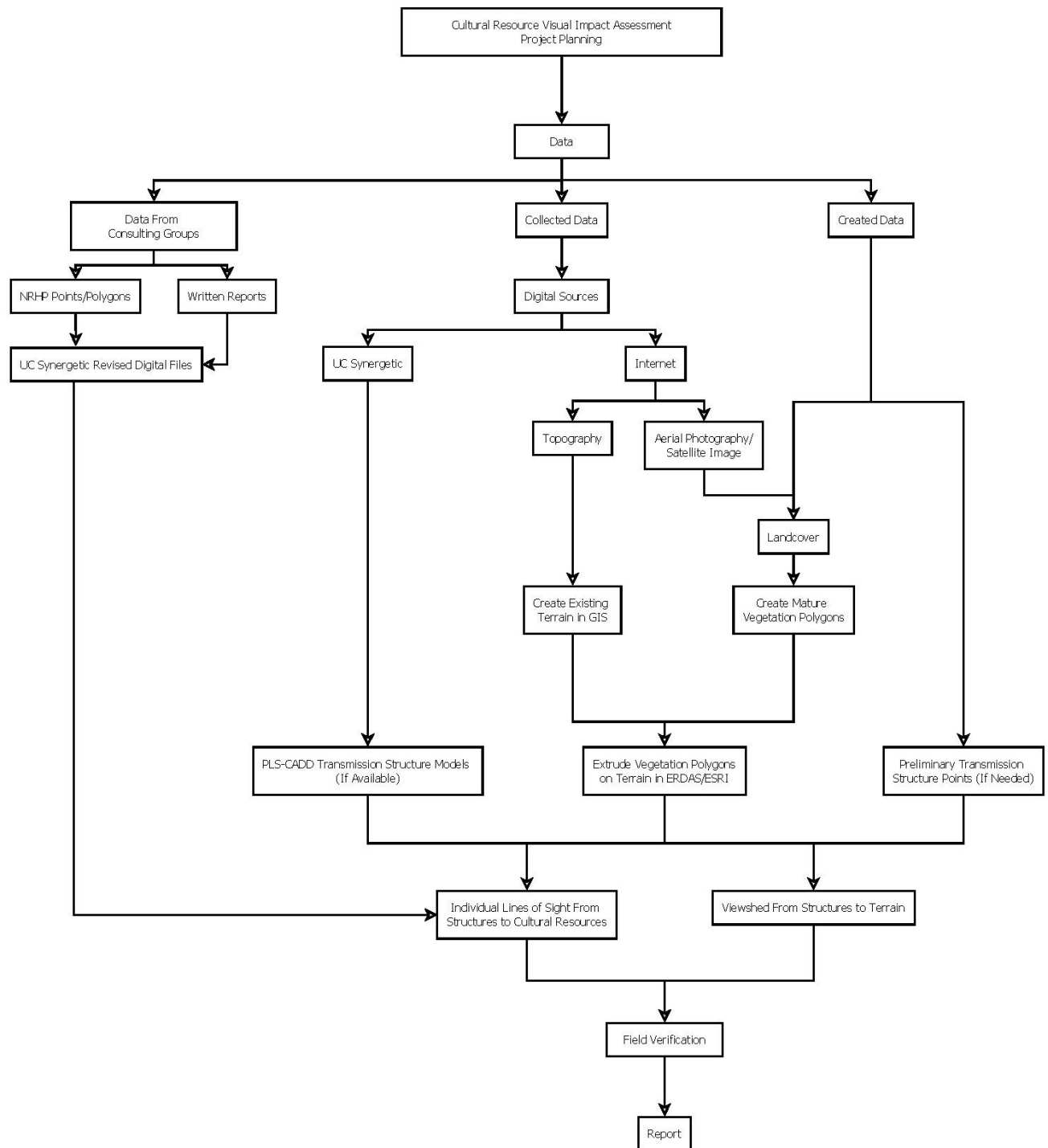
VIII. NRHP Eligible Districts (1)	37
West Graniteville Historic District	
IX. Summary	39
Appendices	41
Appendix A: References	
Appendix B: Visual Impact Assessment Chart	
Appendix C: View Condition Matrix	

I. VISUAL IMPACT ASSESSMENT STUDY METHODOLOGY

On behalf of SCE&G, UC Synergetic (“UCS”) conducted a visual impact assessment study (“Study”) in October 2014 to determine the degree of visual effects, if any, the future Graniteville #2 - South Augusta 230 kV Tie Line and Urquhart - Graniteville 230 kV Line will have on historic resources (structures and districts) within two (2) kilometers (1.25 miles) of the Lines’ Route. The Study was updated in February 2017 to account for an addition of a segment of the proposed lines that will reside in a new 0.92 mile segment of right-of-way on the Urquhart Generating Station site. Throughout this report, the lines will be referred to collectively as the Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines or Lines. The 4 kilometer wide zone (2 kilometers on each side of the Lines) is called the “study area” throughout this report.

The Study evaluated historic resources in the study area that had previously been identified and located by Brockington and Associates, Inc. (“Brockington”) on SCE&G’s behalf. Brockington, a nationally recognized cultural resource consulting firm, identified the resources by reviewing South Carolina Department of Archives and History (“SCDAH”) and Georgia’s Natural, Archaeological, and Historic Resources GIS (“GNAHRGIS”) records to determine historic resources in the study area that are presently listed in the National Register of Historic Places (“NRHP”), eligible for listing in the NRHP or potentially eligible for listing in the NRHP. Additionally, Brockington conducted a windshield reconnaissance survey throughout the study area to identify and locate unrecorded resources which, in their opinion, are potentially eligible for listing in the NRHP. Brockington’s records review and windshield survey identified eighteen (18) historic resources in the study area that were comprehensively evaluated by UCS during the Study to determine the ones, if any, that may be affected visually by SCE&G’s future Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines.

The Study was completed by executing a methodology that includes the application of highly structured computer modeling in conjunction with field evaluations of existing conditions at each identified historic resource. Application of the methodology results in an accurate assessment of the visual impact, or lack thereof, which could possibly result from the addition of the proposed transmission lines. Execution of the Study was completed by applying the methodology illustrated in the flowchart diagram shown in Figure 1.

Figure 1: Cultural Resource Visual Impact Assessment Process

The following four (4) tasks summarize the key steps that were executed to complete the Study.

Task 1 – Gather Existing Information and Data

UCS collected and reviewed study area information and data that included a digital elevation model raster (DEM), aerial photography, and cultural resource locations that were provided by Brockington and Associates, Inc. (“Brockington”), a cultural resource consultant with several offices throughout the United States, including Charleston, South Carolina. Brockington compiled the data by completing background research at the South Carolina Institute of Archaeology and Anthropology (“SCIAA”) and the South Carolina Department of Archives and History (“SCDAH”), and by reviewing Georgia’s Natural, Archaeological, and Historic Resources GIS (“GNAHRGIS”) records to determine the locations of any previously recorded cultural resources in the study area. Additionally, Brockington conducted a “windshield survey” throughout the study area to verify that previously recorded historic resources were still in existence and to identify any additional resources that in their opinion would be eligible or potentially eligible for the NRHP.

Task 2 – Digital Modeling

Using the information and data collected in Task 1, UCS created a digital model using appropriate software such as AutoCAD Civil 3D, ArcGIS, GeoExpress, and ERDAS Imagine. First, an existing grade terrain was created using topographical data (Figure 2). Aerial photography was then used to locate and extract visual obstructions in the study area; primarily mature vegetative cover (Figure 3). The obstructions in the form of ArcGIS polygons were extruded based on their estimated height off of the DEM, conservatively determined to be 60 feet, creating a single surface that now includes both topography and mature vegetative visual obstructions (Figure 4). This modified surface will provide the basis for assessing visibility from cultural resources to the proposed line route.

Working without the aid of digitally engineered transmission structure models, certain assumptions were made from similar projects previously completed to guide the visual impact assessment in order to maximize the accuracy of the data produced. Based on the voltage, land cover, and terrain, similar to that of SCE&G’s VCS1-Killian 230 kV Line¹, a single-pole structure height of 90 feet and a conservative 400 foot span was used in preliminary modeling of the Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines. The maximum elevation above sea level of the preliminary transmission structures was used to develop a viewshed, which delineated areas in the vicinity of the lines where views of structures or portions of structures may be possible. The viewshed model was overlaid onto mapping displaying the locations of the 18

¹ On SCE&G’s behalf, UCS recently completed line engineering for the VCS1 - Killian 230 kV Line.

historic resources identified by Brockington. Furthermore, multiple lines of site in the form of profile graphs were created from each of the historic resources to display any obstructions, or lack thereof, that lie in the visual path of views from each historic resource toward the Lines' route.

Task 3 – Field Verification

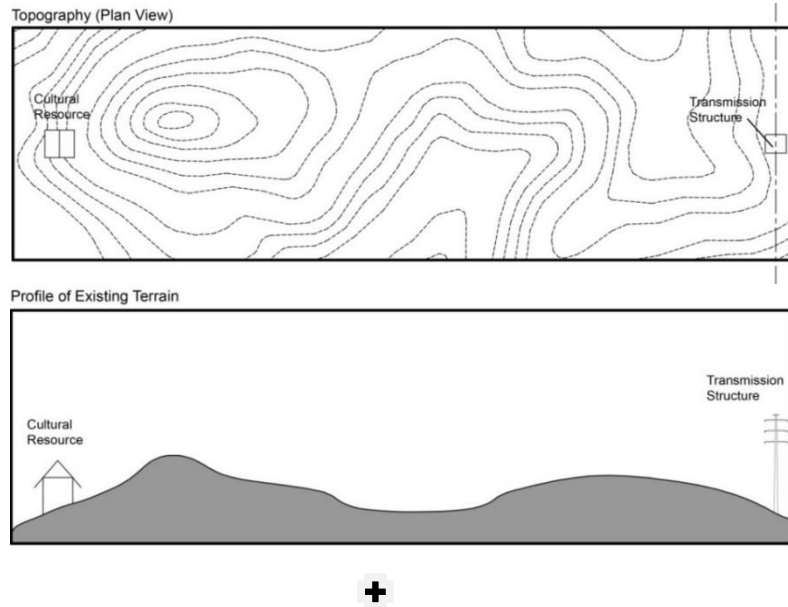
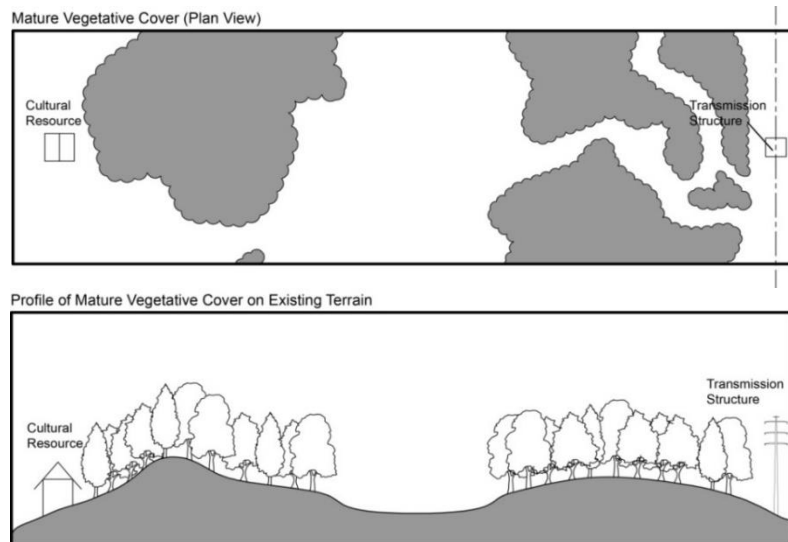
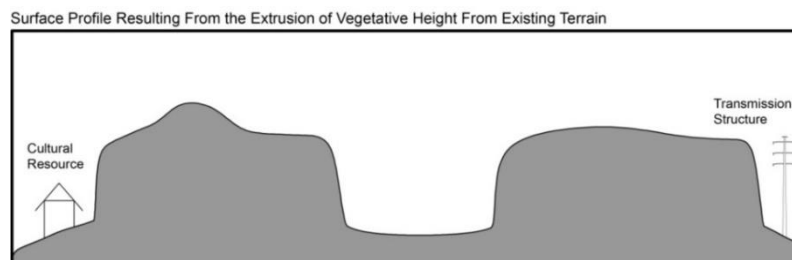
UCS visited, photographed, and assessed all historic resources listed on the NRHP, eligible for the NRHP, or potentially eligible for the NRHP as determined by the background research and windshield survey to verify the accuracy of the work products developed in Task 2.

Task 4 – Preparation of a Visual Impact Assessment Report

UCS prepared a Visual Impact Assessment Report to predict and document the visual effects to historic sites on the NRHP, sites eligible for the NRHP and sites potentially eligible for the NRHP that may result from construction of the Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines.

II. GRAPHIC INTERPRETATION OF THE VISUAL PROBABILITY ANALYSIS

This report includes literary evaluations, mapping, photography, and line of site profile graphs to clearly display any significant structures or places that may be impacted by a view of the proposed Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines. Figures 2, 3, 4, 5 and 6 are included to graphically illustrate how UCS analyzed view probability from each historic resource by applying factors that included historic resource locations, transmission line structure locations (based on engineering assumptions), topography and vegetation, if any, between the resource and potential 230 kV transmission line structures. Figures 2, 3 and 4 illustrate how view analysis profiles are developed using topography and vegetative conditions present between viewpoints (i.e., specific historic resource locations) and proposed transmission line structures for the purposes of analyzing how views from the resources in the direction of the proposed transmission line are affected by the combination of landforms and vegetation. Figures 5 and 6 graphically depict how computer analyses, based on line of sight from the resources to proposed transmission line structures, are completed using the information developed from analyzing the topography and vegetative cover present between the resource and proposed transmission line structures.

Figure 2: Topography**Figure 3: Mature Vegetative Cover****Figure 4: Resulting Surface** (combined effects of topography and vegetation)

III. GRAPHIC EXPLANATION OF VIEW ANALYSIS PROFILES

Figure 5: Profile Graph Example (refer to legend following Figure 6)

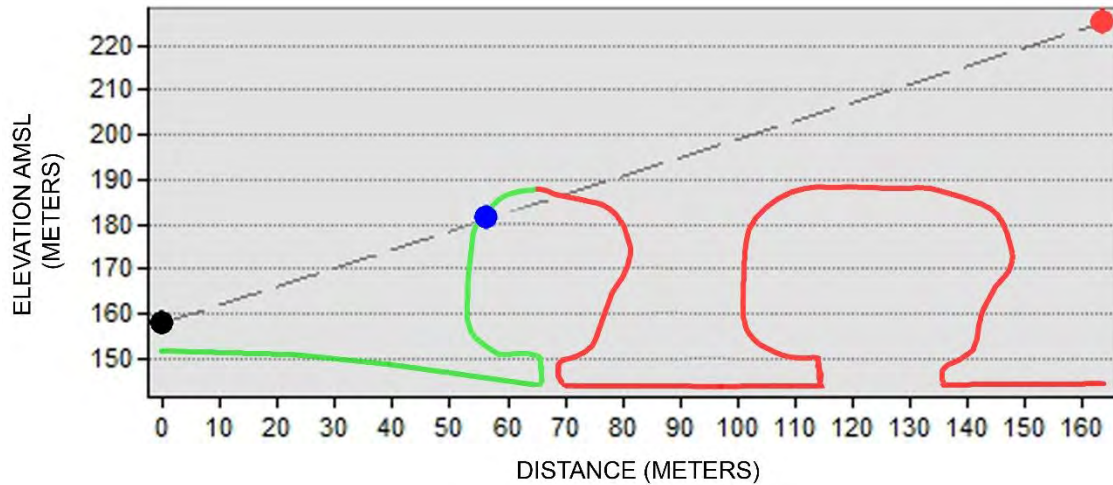
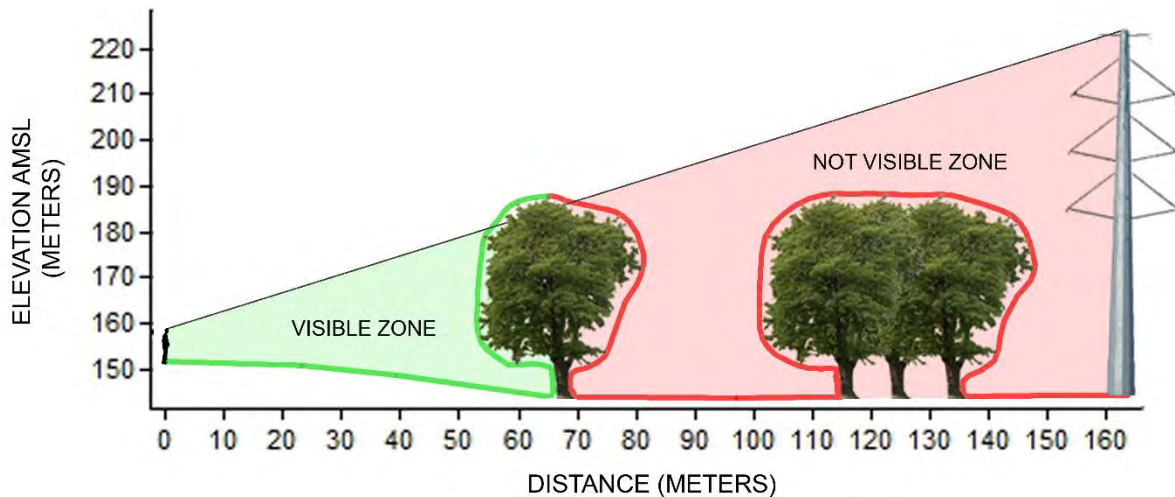


Figure 6: Profile Graph Example (Visualization)



Legend

- Probable Visible Terrain/Vegetative Surfaces from the Viewpoint
- Probable Not Visible Terrain/Vegetative Surfaces from the Viewpoint
- Viewpoint at the Resource
- Screening Element (Terrain or Vegetation) on the Line-of-Sight From the Viewpoint to the Top of Line Structure
- Top of Line Structure Seen
- Top of Line Structure Not Seen

IV. STUDY AREA MAPPING INCLUDING HISTORIC RESOURCE LOCATIONS

Figure 7 shows the project location, including the study area that extends outward 2 kilometers (1.25 miles) from the proposed Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines, over United States Geological Survey topographic mapping. Overlaid on the mapping are the locations of the historic resources that are evaluated in this report. Figures 8, 9, 10, and 11 are enlarged segments of mapping showing the locations of the historic resources in relation to area roads, railroads, county boundaries and major water bodies.

Figure 7: Historic Resource Vicinity Map

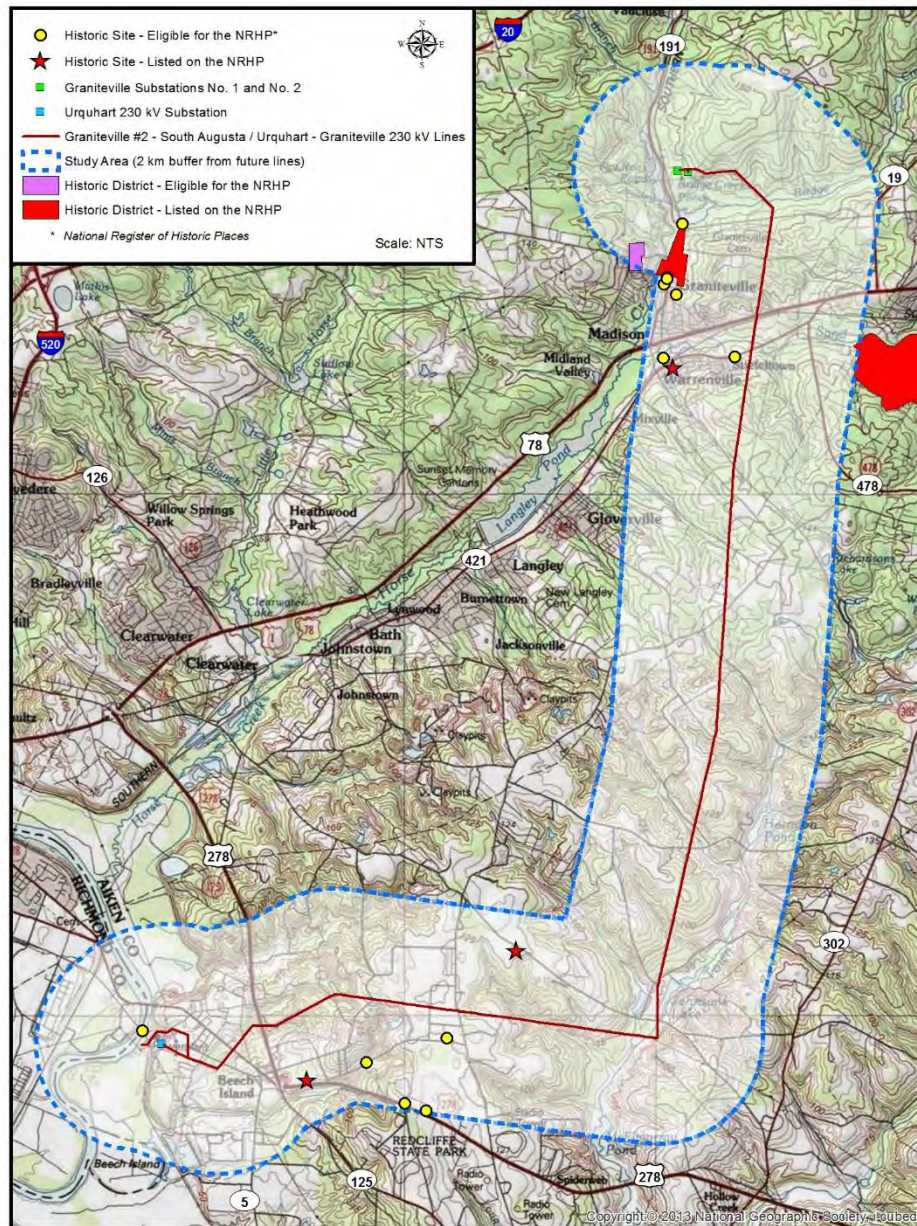


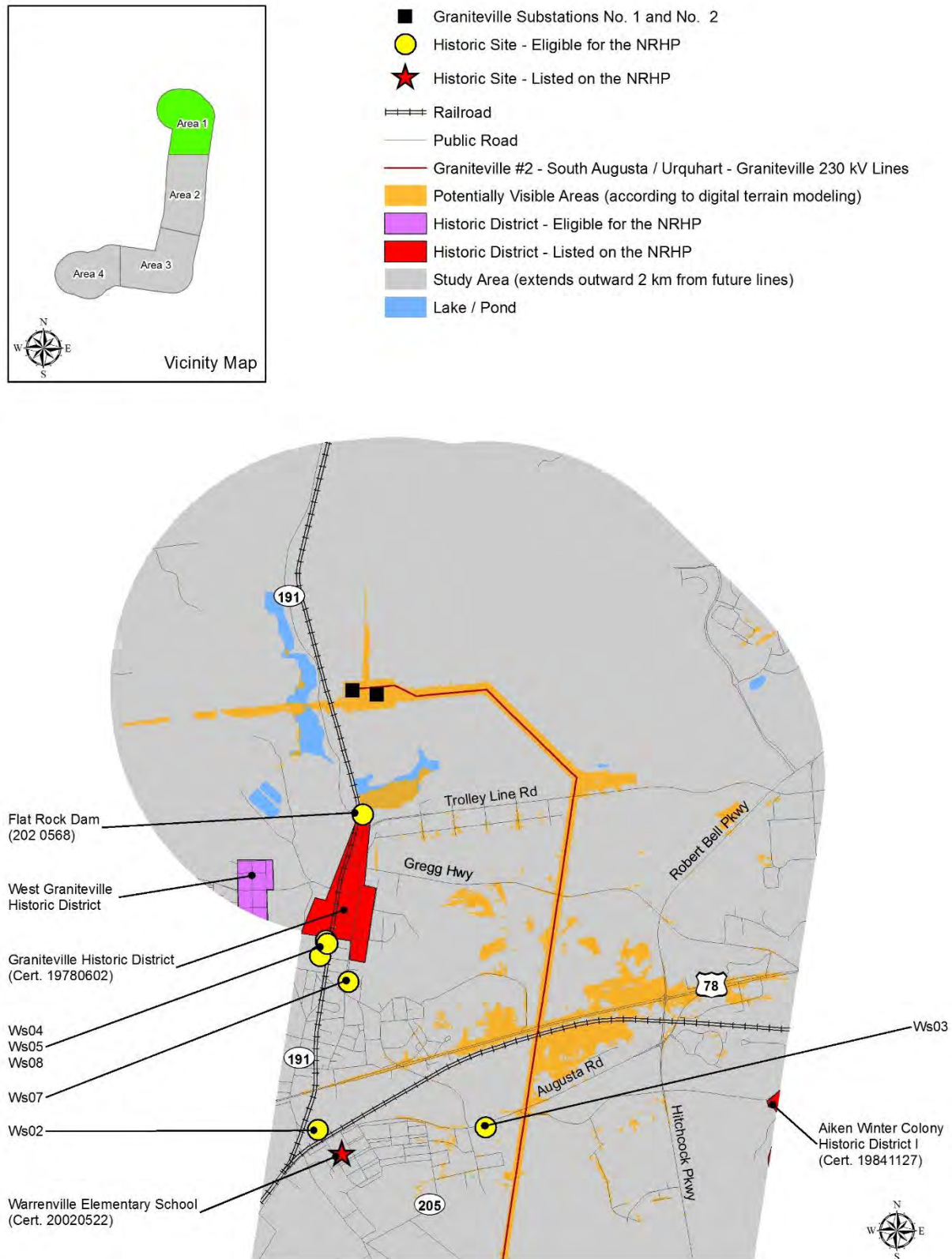
Figure 8: Historic Resource Vicinity Map - Area 1

Figure 9: Historic Resource Vicinity Map - Area 2

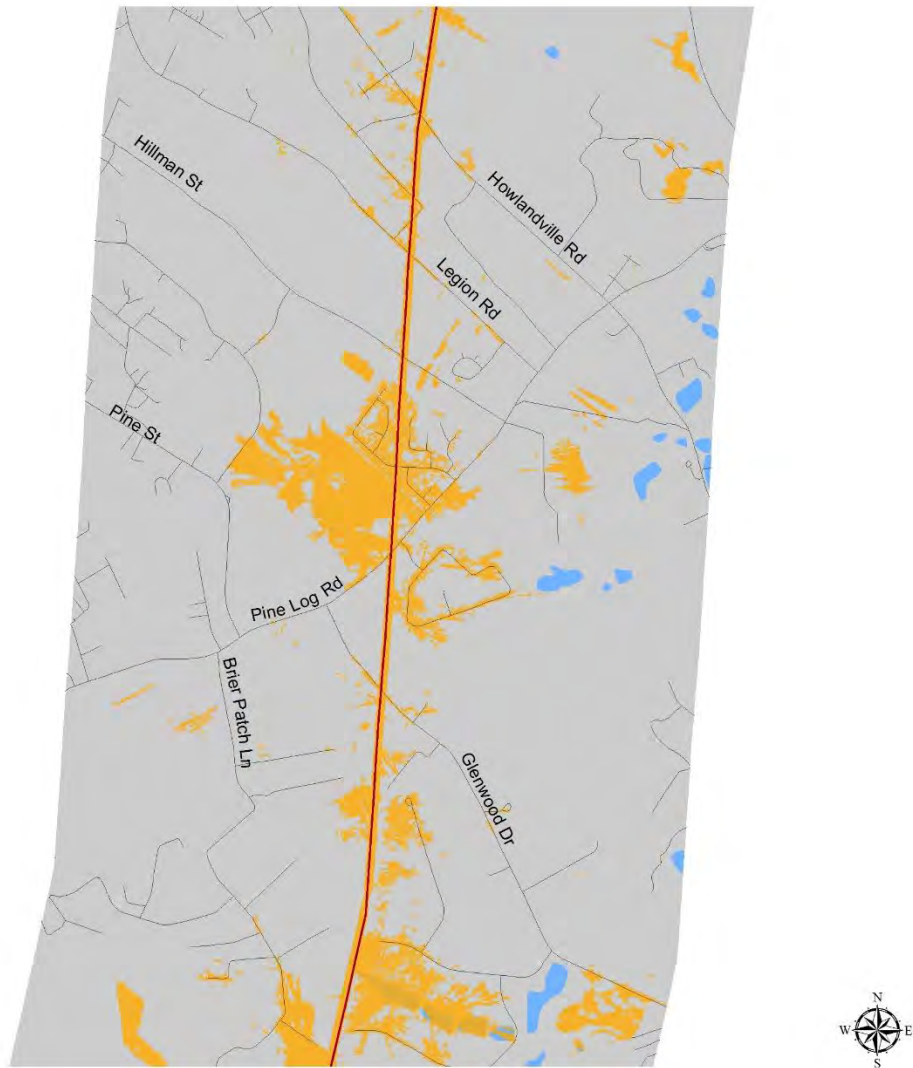
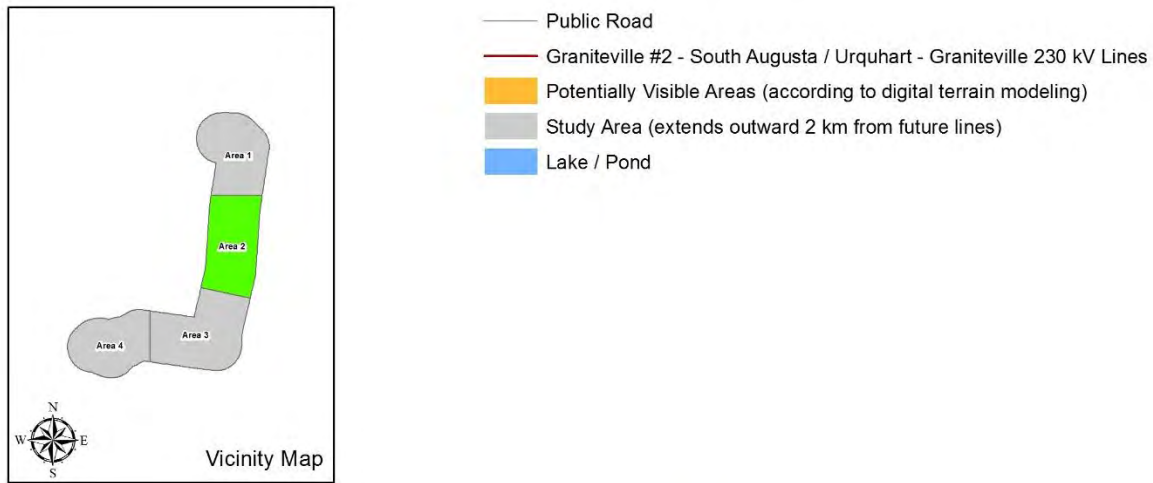
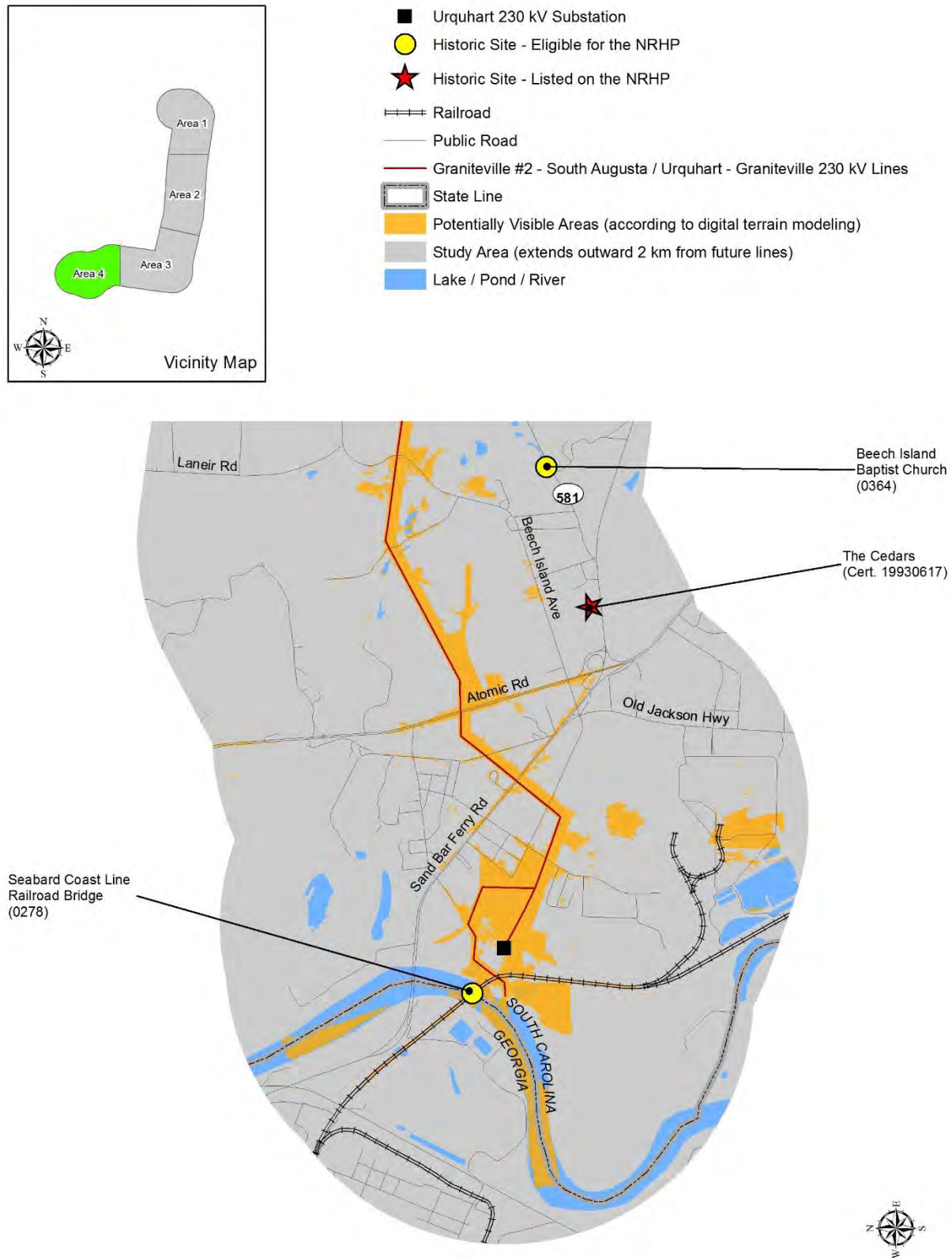


Figure 10 Historic Resource Vicinity Map - Area 3



Figure 11 Historic Resource Vicinity Map - Area 4

V. NRHP LISTED SITES

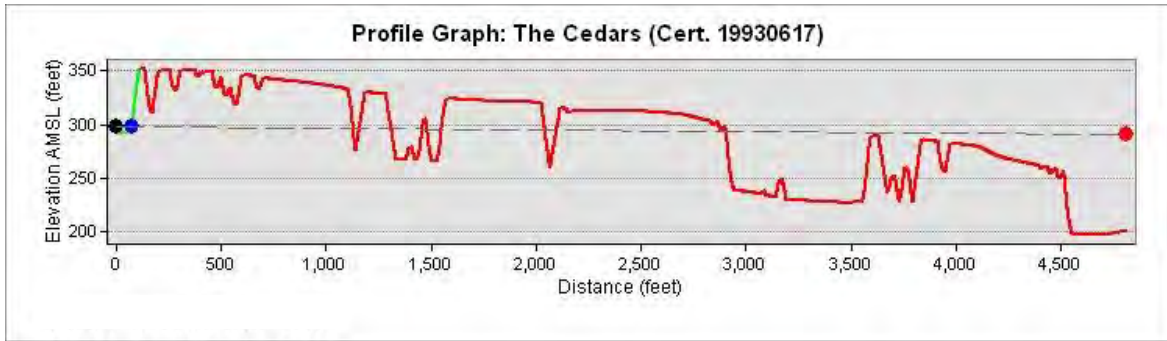
Historic Site: The Cedars (Cert. 19930617)

Description: (Ardis House; Atkinson House) The Cedars complex is significant because it is an unusual combination of two wholly distinct architectural styles, the simple vernacular and the ornate folk Victorian. The later addition represents the changing social status of the owner at that time, Edward Heyward Atkinson, a local farmer, businessman and community leader in Beech Island. Built by Abram Ardis, Jr., around 1825, the original core of The Cedars main residence was a two-story, three bay, frame and weatherboard structure with no exterior embellishment with the principle entrance on the east elevation. Edward Heyward Atkinson, who doubled the size of the original building, built the second stage around 1908-1910. This two-story addition was built onto the south elevation of the original house and was faced with a one-story, full-width porch. The property is also significant because of three contributing agricultural outbuildings: a weatherboard barn with a standing seam metal roof, an early twentieth century frame tenant house covered with board and batten siding (a two room house, it is one remaining of the three that originally stood on the property), and a smokehouse. The complex of house and outbuildings represent and codify the changing agricultural practices of rural Aiken County from 1850 to 1925. Listed in the National Register June 17, 1993. (Description from the South Carolina Department of Archives and History).

Distance from Lines' Route: 0.34 miles / 0.54 kilometers

Field Visit & Analysis: The Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines will be screened by heavy foreground screening to the rear and western side of the house.





Conclusion Based on the Visual Impact Assessment and Field Visit: No view of the Lines

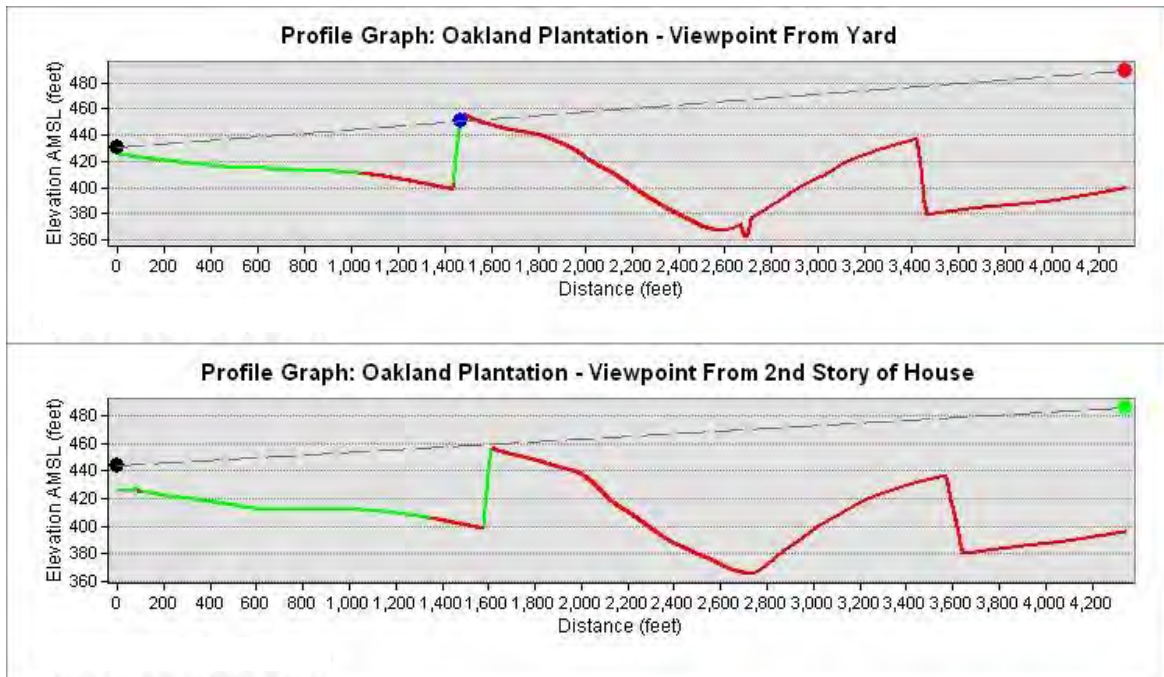
Historic Site: Oakland Plantation

Description: Oakland Plantation, built in 1824-1826 by Wade Glover, is significant as a virtually intact and remarkably preserved example of an early nineteenth-century Carolina I-house with minimal mid-nineteenth century and early twentieth-century additions and alterations. Oakland's architectural origins lie in its symmetrical and balanced style. Due to its central hall two-over-two floor plan with gable-end chimneys, one-story gallery on the facade, and shed room on the rear elevation, it can be classified as a Carolina I-House. A weatherboard exterior and nine-over-nine windows, most of which are original, also contribute to its status as an excellent example of a rural Carolina plantation house. A fish-scale tin roof covers the main section of the house. Interior details and construction methods exhibit outstanding craftsmanship of the early-to-mid nineteenth century. Handsome hand-carved mantels, trim work, an elegant stairway, heart pine floors, and a plaster ceiling medallion exhibit detail not usually seen in a rural South Carolina farm house, indicating the educated taste of its builder. Two contributing outbuildings and two noncontributing outbuildings are also present on the property. A ca. 1850 frame one-story gable-end dairy house and a ca. 1920 frame one-story gable-end garage contribute to the historic and architectural character of the property. Listed in the National Register of Historic Places August 19, 2011. (Description from the South Carolina Department of Archives and History).

Distance from Lines' Route: 0.82 miles / 1.32 kilometers

Field Visit & Analysis: The house sits in a small grove of mature trees and is surrounded by open agricultural land. The existing line route could not be seen from the property due to screening from mid-ground tree cover. However, while no views of the Lines are expected from the ground elevation, digital modeling yielded the potential for a slight view of the tops of poles from a height of 18', which was estimated to be that of the second story of the house.





Conclusion Based on the Visual Impact Assessment and Field Visit: No views of the Lines are expected from the yard area. Views from the second story, if any, will be heavily filtered by the tree canopies within the yard area and are not expected to be evident to the casual viewer within the house due to the partial screening effects of foreground tree canopies and the distance to the Lines.

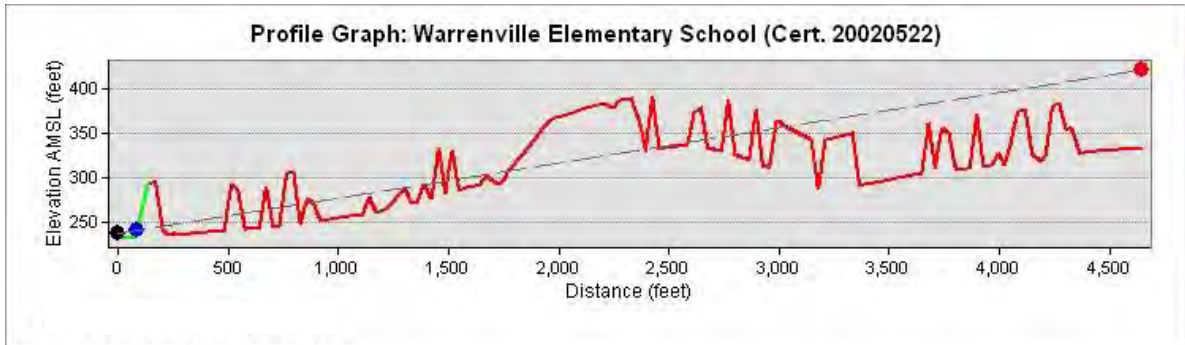
Historic Site: Warrenville Elementary School (Cert. 20020522)

Description: Warrenville Elementary School, originally known as Warrenville Graded School, is an excellent example of the Classical Revival style of school architecture that flourished as a direct result of expanded state support for education in the first quarter of the 20th century. It also represents a key component of the paternalistic social and economic system that characterized textile mill villages in piedmont South Carolina from 1900-1945. From its construction in 1925, Warrenville School was in continuous use until 1992 as an educational institution for mill village children. The school is a large, rectangular, two-story brick building located at the west end of the Warrenville mill village. In 1954, two one-story wings were added to the rear (south) and west sides of the building, creating its present C-shaped plan. The school's original brick and stone façade features baroque massing and is encircled by a full entablature and projecting cornice with a parapet above the roofline. The main façade is defined by slightly projecting central and end pavilions. The entablature here contains a frieze of four stone rondelles under a pediment featuring a bullseye window with cut keystones. The school is one of seven schools in Aiken County designed by W.W. Simmons & Son, an obscure architecture firm working out of Augusta, Georgia during the 1920s and active until 1951. Listed in the National Register May 22, 2002. (Description from the South Carolina Department of Archives and History).

Distance from Lines' Route: 0.88 miles / 1.42 kilometers

Field Visit & Analysis: The resource is now home to a senior community living facility, Village Senior. Views from the ground and second story towards the line route are obstructed by foreground mature tree cover.





Conclusion Based on the Visual Impact Assessment and Field Visit: No view of the Lines

VI. NRHP LISTED DISTRICTS

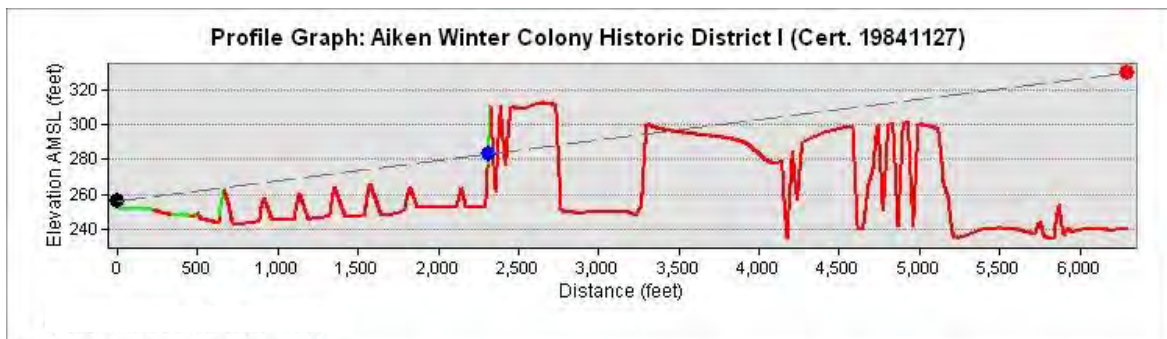
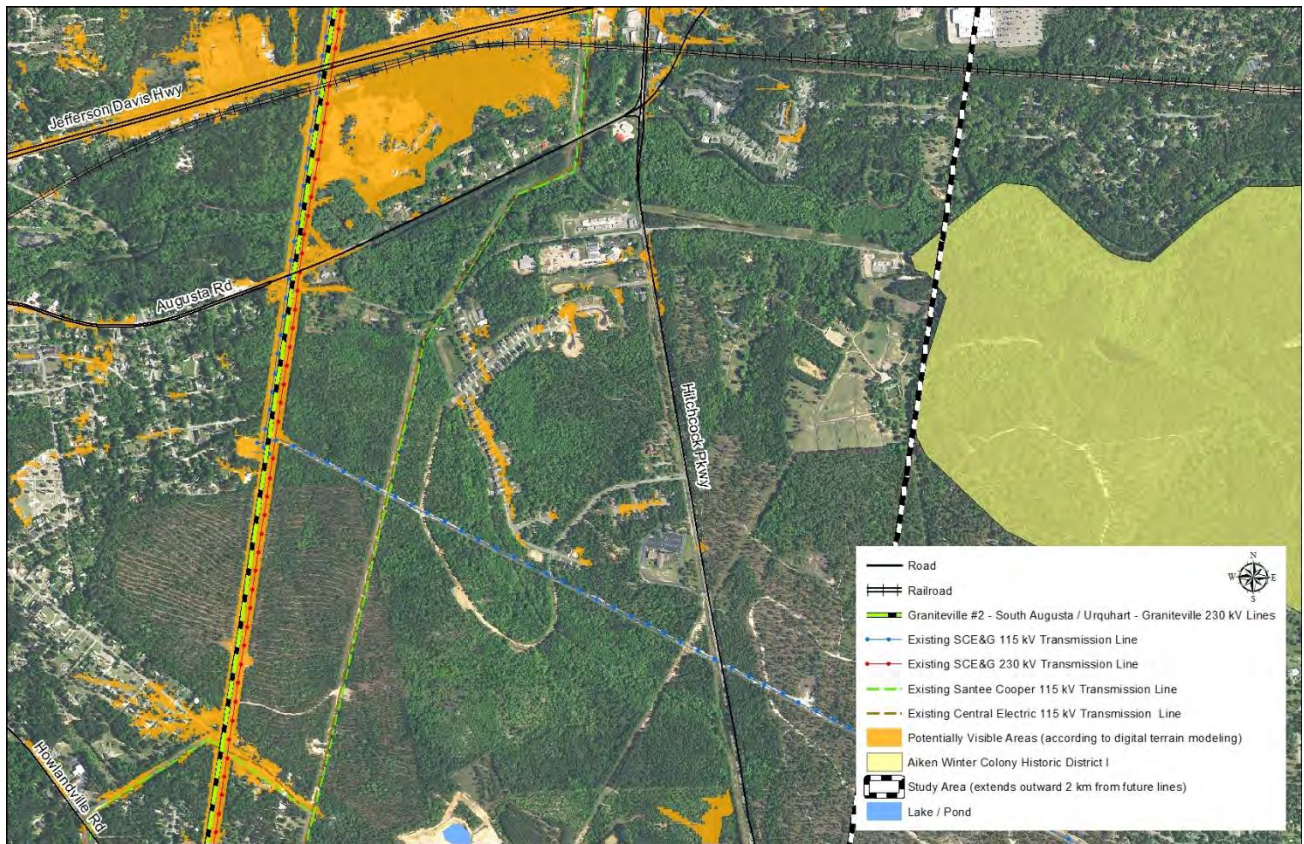
Historic Site: Aiken Winter Colony Historic District I (Cert. 19841127)

Description: Aiken Winter Colony Historic District I is significant as the area in Aiken most closely associated with the Winter Colony and the horse industry. The district contains many of the properties most important in the history of the Winter Colony including sophisticated residences constructed by Winter Colonists between ca. 1900 and ca. 1930, the Whitney Polo Field, established in 1882, and the Palmetto Golf Course, begun in 1892. Also included is Hitchcock Woods, developed around the turn of the century for riding and fox and drag hunting. Many of the properties in the district are associated with key figures in the development of the Winter Colony. The district consists of approximately thirty-five properties constructed between ca. 1882 and ca. 1948, which includes residences, outbuildings, golf courses, school buildings, and equestrian sporting facilities. The area is characterized by tree-lined streets and unpaved roads, large mansions with outbuildings and expansive lawns, and stables. Primary architectural stylistic influences include the Colonial Revival, Classical Revival, and Queen Anne. Listed in the National Register November 27, 1984. (Description from the South Carolina Department of Archives and History).

Distance from Lines' Route: 1.19 miles / 1.92 kilometers

Field Visit & Analysis: Less than 3 acres of the 1,900-acre resource lie within the 2 kilometer study area, all of which is forested. Due to distance and the presence of foreground vegetative screening, the Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines will not be visible.





Conclusion Based on the Visual Impact Assessment and Field Visit: No view of the Lines

Historic Site: Graniteville Historic District (Cert. 19780602)

Description: The Graniteville Historic District consists of the Graniteville Canal, which dates to 1846; the original two and one-half story Graniteville Mill constructed of locally quarried granite and completed in 1849; twenty-six original workers' houses in Early Gothic Revival style, most of whose exteriors are virtually unaltered; nine other units of early mill housing; the 1847 Graniteville Academy where operatives children were educated at company expense; and the Early Gothic Revival St. John's Methodist Church, designed by Charleston architect E.B. White and completed in 1849. Most of these structures were either constructed by William Gregg or under his close supervision, and many still retain much of their original architectural vitality. While building the mill, Gregg supervised construction of a company town, thus bringing into existence the first typical southern mill village. By providing cheap housing, free schools, churches, and stores and by maintaining personal supervision over the morals and everyday lives of his operatives, Gregg established a pattern that would be emulated by scores of cotton mill owners throughout the region. Listed in the National Register June 2, 1978; Designated a National Historic Landmark June 2, 1978. (Description from the South Carolina Department of Archives and History).

Distance from Lines' Route: 0.62 miles / 1.00 kilometers

Field Visit & Analysis: The Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines will not be seen from any point within the district due to heavy foreground screening from mature vegetation and urban infill.



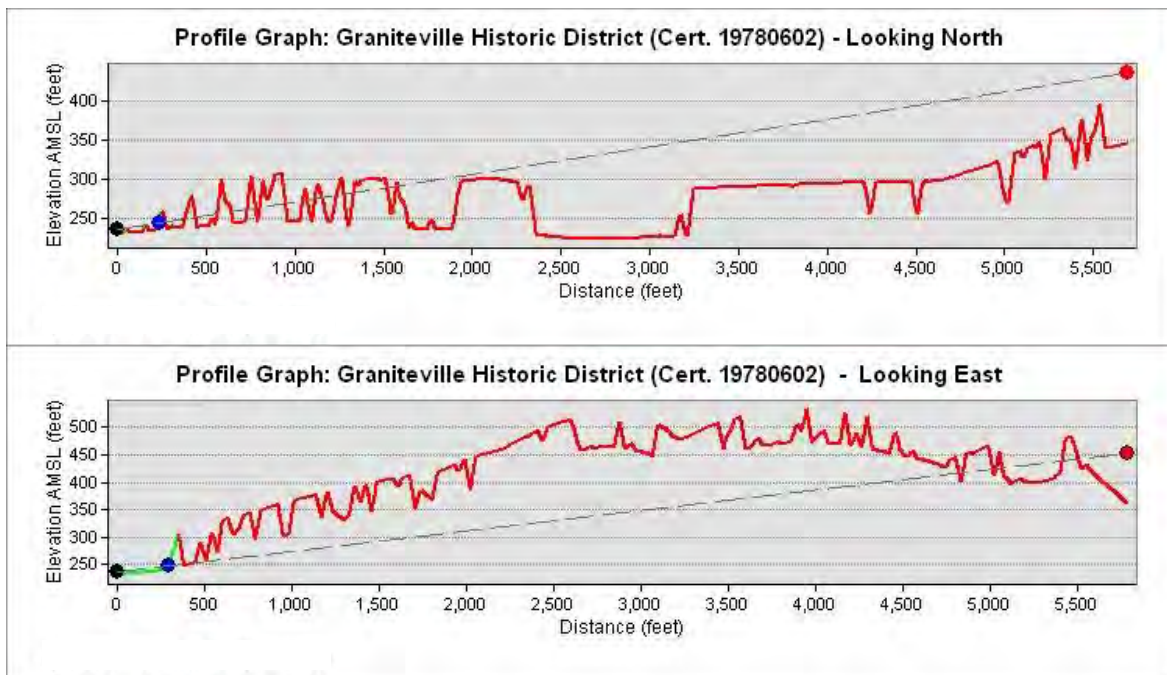
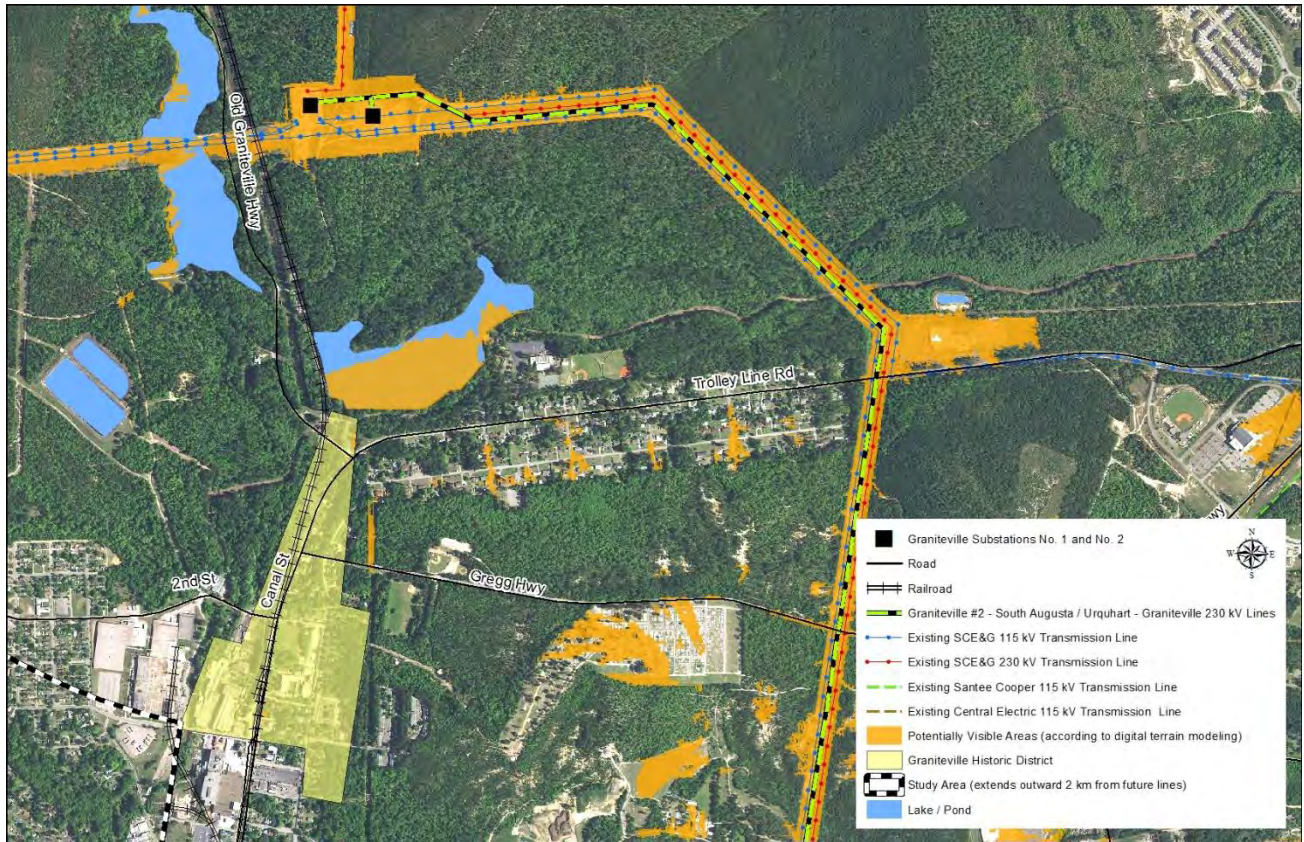
Mill on 2nd St



View of school from Church St



View toward railroad and Graniteville Canal from Canal St



Conclusion Based on the Visual Impact Assessment and Field Visit: No view of the Lines

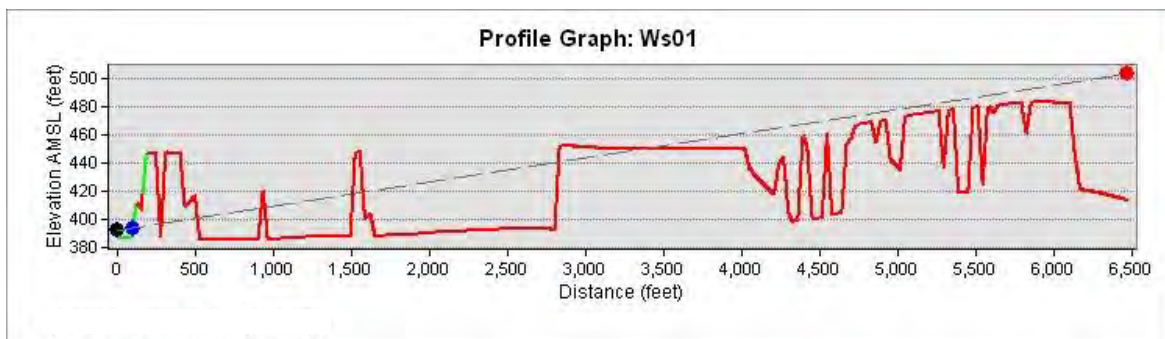
VII. NRHP ELIGIBLE SITES

Historic Site: Ws01

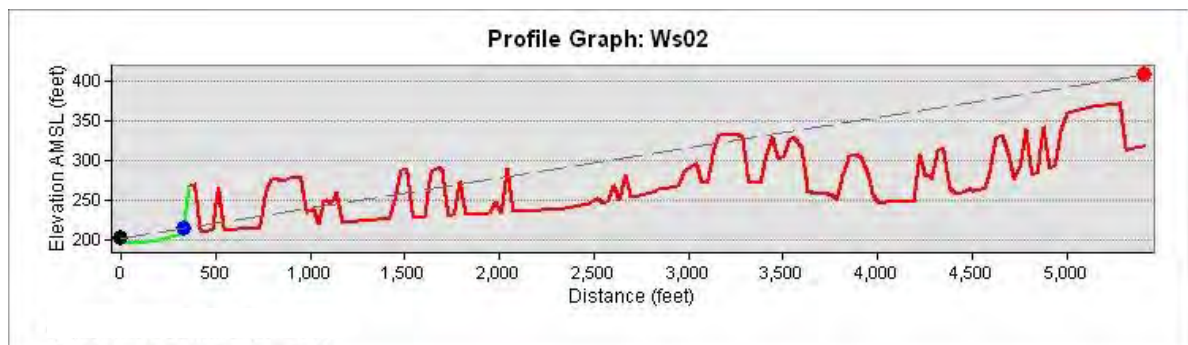
Description: Two-story brick house, ca. 1900

Distance from Lines' Route: 1.22 miles / 1.97 kilometers

Field Visit & Analysis: Due to heavy foreground screening from scattered vegetation and a dense stand of foreground trees, it was determined that this resource would not have a probable view of the proposed line route from the house or yard area. In addition to the foreground vegetative screening, the house itself faces in the opposite direction of the line route. However, the tops of an existing line located on the SCE&G right-of-way was slightly visible from the field west of the resource.



Conclusion Based on the Visual Impact Assessment and Field Visit: No view of the Lines

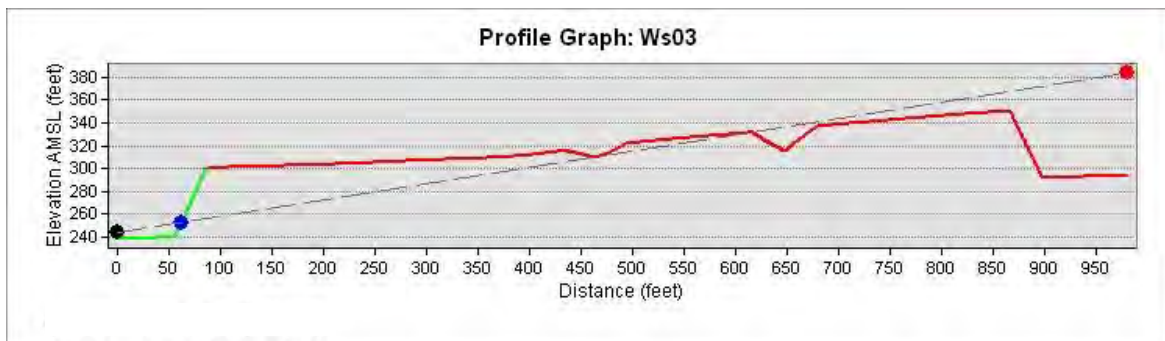
Historic Site: Ws02**Description:** Late 19th century mill building, Graniteville Company Warren Division**Distance from Lines' Route:** 1.02 miles / 1.64 kilometers**Field Visit & Analysis:** The mill building is currently unoccupied and is surrounded by fenced in parking lots and overgrown vegetation. Mature tree cover from residential neighborhoods in the direction of line route provide adequate screening.***Conclusion Based on the Visual Impact Assessment and Field Visit:*** No view of the Lines

Historic Site: Ws03

Description: Double pile/pyramidal house with original leaded windows, ca. 1900

Distance from Lines' Route: 1.04 miles / 1.68 kilometers

Field Visit & Analysis: Vegetation on the eastern side of the house provides heavy screening of the line route.



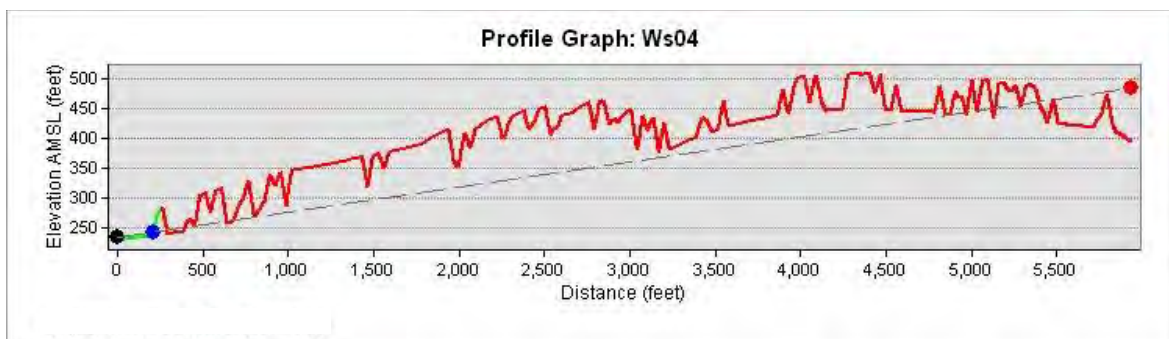
Conclusion Based on the Visual Impact Assessment and Field Visit: No view of the Lines

Historic Site: Ws04

Description: Hickman Memorial Hall, ca. 1907

Distance from Lines' Route: 1.22 miles / 1.81 kilometers

Field Visit & Analysis: The Hickman Memorial Hall sits in the middle of an industrial grouping of former textile mills. Heavy mid-ground screening of mature vegetation, existing buildings, and elevation change will block any potential views of the line route from ground and second story elevations of the resource.



Conclusion Based on the Visual Impact Assessment and Field Visit: No view of the Lines

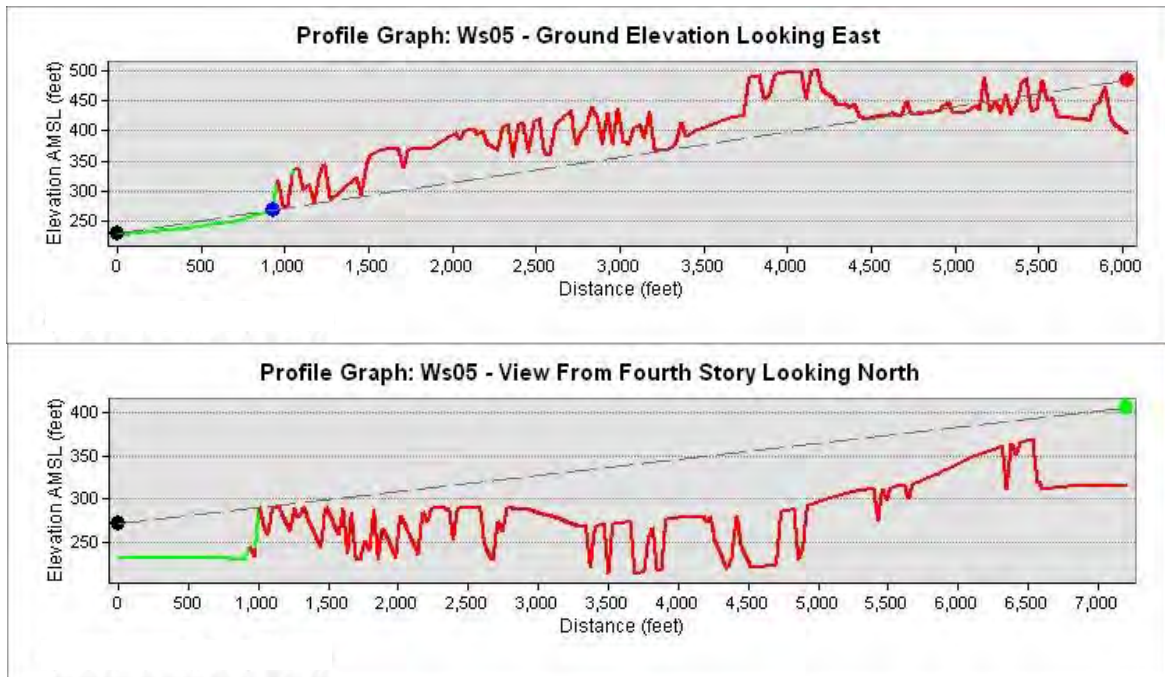
Historic Site: Ws05

Description: Hickman Mill

Distance from Lines' Route: 1.14 miles / 1.84 kilometers

Field Visit & Analysis: Hickman Mill has been renovated and updated to serve as an appliance-recycling facility for an Atlanta-based company, Recleim. Heavy mid-ground screening of mature vegetation, existing buildings, and elevation change will block any potential views of the line route from ground elevations. Digital modeling shows the potential for views of the line route to the north from the fourth story window elevation located on the northeast corner of the building, which was estimated to be 40' above the ground. However, based on the architecture and staggering of the windows on the northeast corner of the building, the windows appear to be associated with an internal staircase. Because of the distance of the view to the Lines and the window's association with stairs rather than interior floor spaces, the change in view conditions from the resource compared to current conditions in the direction of the existing transmission lines will be only slightly recognizable.





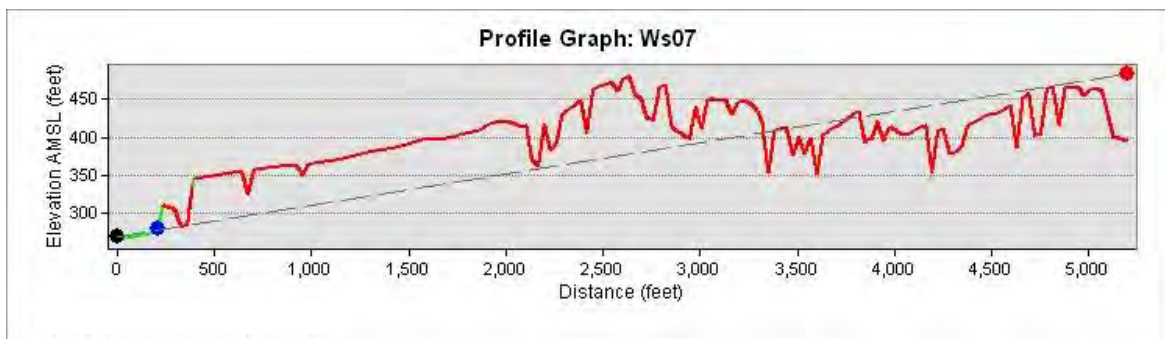
Conclusion Based on the Visual Impact Assessment and Field Visit. The Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines east of the resource will not be visible from any observer location on the property. Views of the Lines to the north are possible from the fourth story windows, but will be only slightly recognizable.

Historic Site: Ws07

Description: Two-story residence, ca. late 1800s

Distance from Lines' Route: 0.98 miles / 1.58 kilometers

Field Visit & Analysis: The house is situated back on a lot surrounded by dense forest cover. The Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines will not be visible through existing foreground screening.



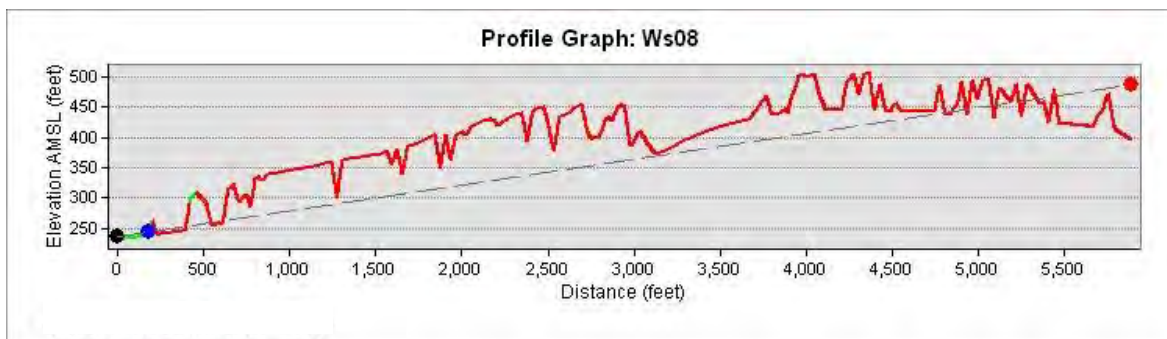
Conclusion Based on the Visual Impact Assessment and Field Visit: No view of the Lines

Historic Site: Ws08

Description: Commercial building, ca. 1900

Distance from Lines' Route: 1.11 miles / 1.79 kilometers

Field Visit & Analysis: Heavy mid-ground screening of mature vegetation, existing buildings, and elevation change will block any potential views of the Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines from ground and second story elevations of the resource.



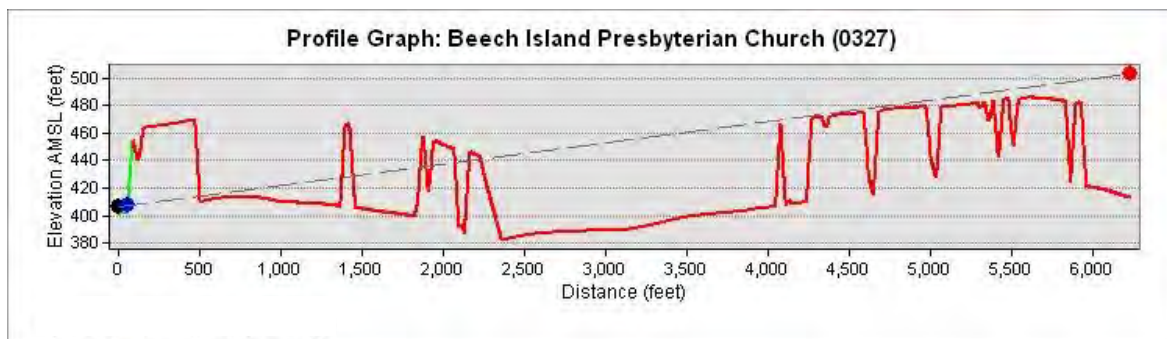
Conclusion Based on the Visual Impact Assessment and Field Visit: No view of the Lines

Historic Site: Beech Island Presbyterian Church (0327)

Description: One-story frame church building, ca. 1836

Distance from Lines' Route: 1.18 miles / 1.90 kilometers

Field Visit & Analysis: Heavy foreground screening from existing tree cover behind the church and distance will limit any potential views of the Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines.



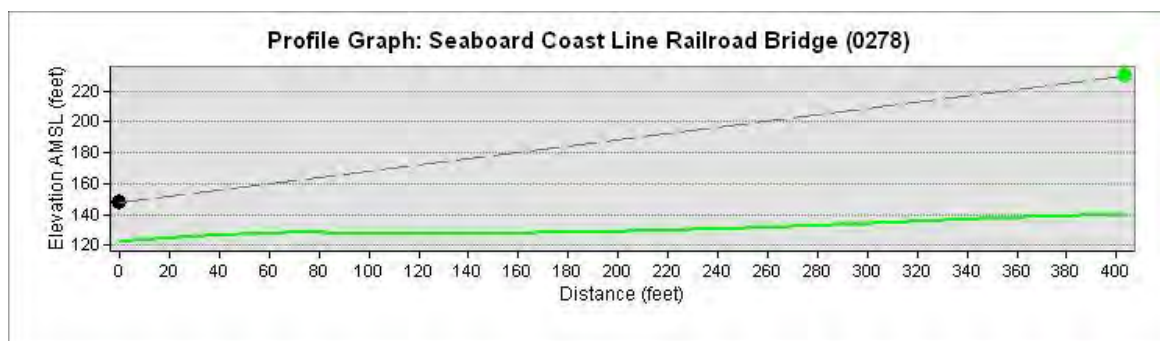
Conclusion Based on the Visual Impact Assessment and Field Visit: No view of the Lines

Historic Site: Seaboard Coast Line Railroad Bridge (0278)

Description: Railroad bridge crossing the Savannah River, ca. 1930

Distance from Lines' Route: 0.08 miles / 0.13 kilometers

Field Visit & Analysis: The Seaboard Coast Line Railroad Bridge crosses over the Savannah River from Georgia to South Carolina. Inaccessible to the public, a view of the proposed structure adjacent to the Savannah River will be possible, but the structure will replace the lattice steel tower that is now visible from the bridge and shown in the photograph below. Additionally, views of two additional new structures will be visible as the Lines run on the proposed new right-of-way on the Urquhart Generating Station site. Because of the existing landscape context (i.e., highly modified by existing electrical transmission lines, electrical substations and the electrical generating station) the addition of the proposed lines will not significantly modify existing view conditions from the railroad bridge.



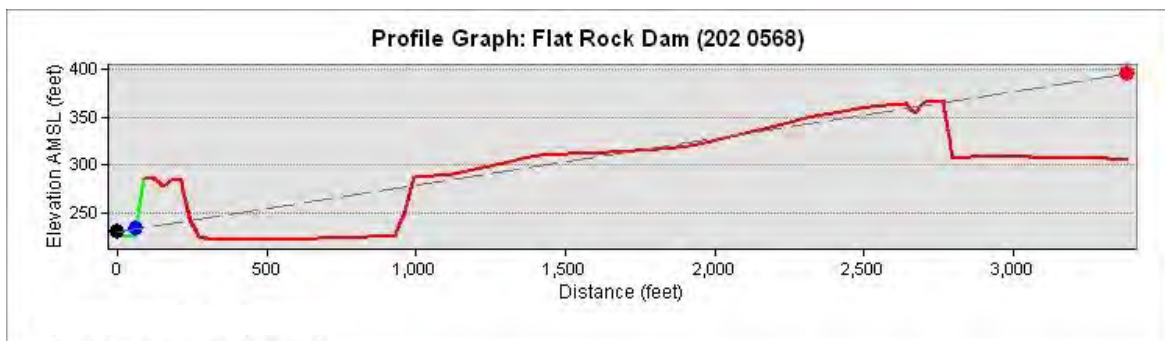
Conclusion Based on the Visual Impact Assessment and Field Visit: Though visible from the railroad bridge, the addition of the Lines will not significantly alter existing view conditions from the resource due to scattered foreground screening and the existing highly modified view conditions.

Historic Site: Flat Rock Dam (202 0568)

Description: Dam separating Graniteville Canal from Bridge Creek Pond

Distance from Lines' Route: 1.08 miles / 1.74 kilometers

Field Visit & Analysis: Heavy foreground screening; the Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines will not be visible.



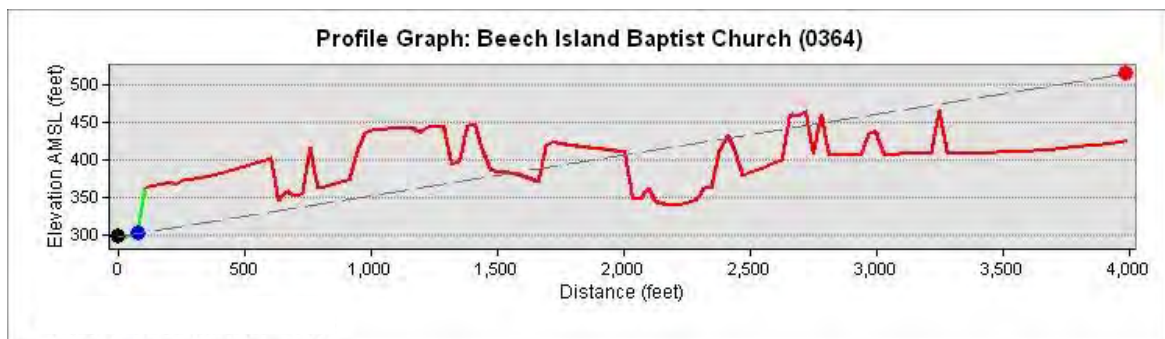
Conclusion Based on the Visual Impact Assessment and Field Visit: No view of the Lines

Historic Site: Beech Island Baptist Church (0364)

Description: Two-story frame church building, ca. 1832

Distance from Lines' Route: 0.75 miles / 1.21 kilometers

Field Visit & Analysis: The church complex consists of the primary resource, the sanctuary, along with two supporting church buildings and a cemetery. Views towards the Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines will be screened from all areas on the complex by mature forest cover.



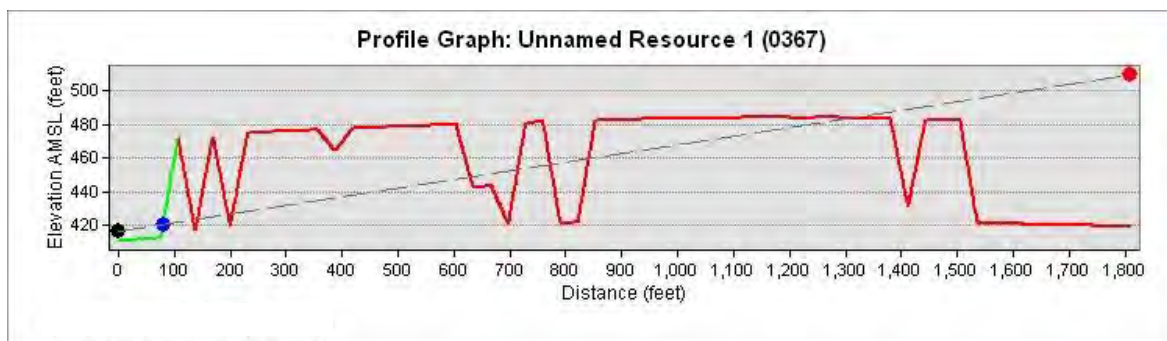
Conclusion Based on the Visual Impact Assessment and Field Visit: No view of the Lines

Historic Site: Unnamed Resource 1 (0367)

Description: One-story frame residence, ca. 1885

Distance from Lines' Route: 0.34 miles / 0.55 kilometers

Field Visit & Analysis: The house is situated in a very dense mix of understory plantings and scattered tree cover. The Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines will not be visible due to foreground screening.



Conclusion Based on the Visual Impact Assessment and Field Visit: No view of the Lines

VIII. NRHP ELIGIBLE DISTRICTS

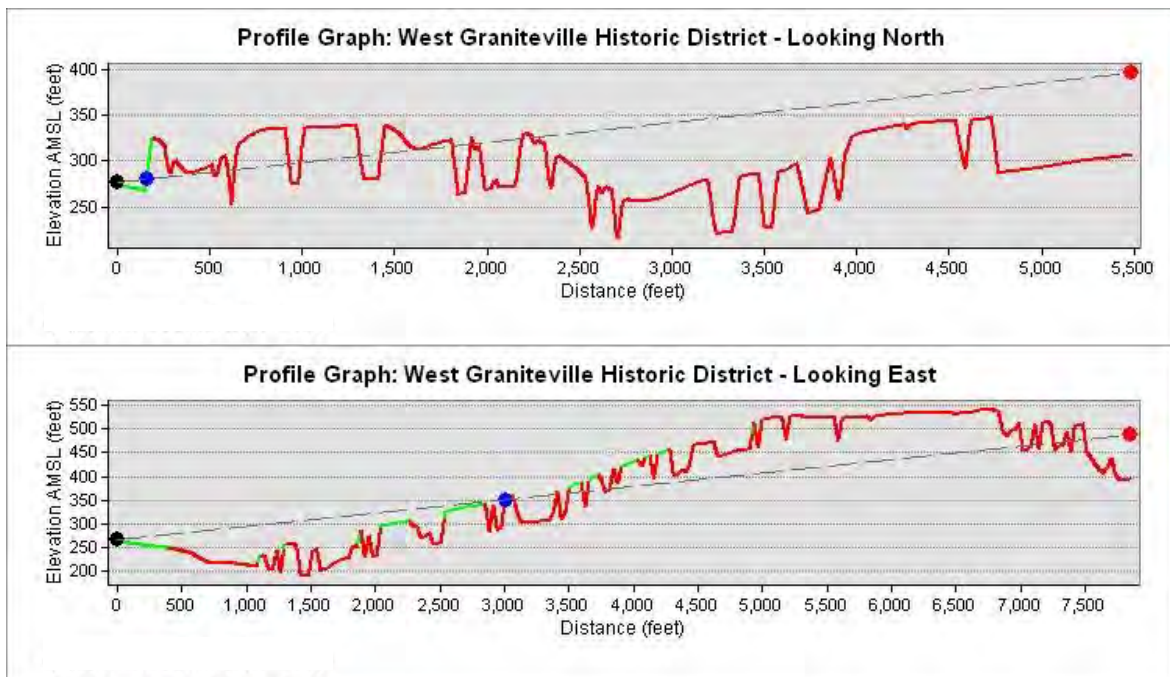
Historic Site: West Graniteville Historic District

Description: Residential district composed primarily of mill houses

Distance from Lines' Route: 1.00 miles / 1.61 kilometers

Field Visit & Analysis: The Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines will not be visible due to heavy foreground screening from mature tree cover and urban infill.





Conclusion Based on the Visual Impact Assessment and Field Visit: No view of the Lines

IX. SUMMARY

Total number of Historic Resources analyzed during the Visual Impact Assessment: 18

Total number of NRHP Listed Sites with a Potential View of the Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines: 1 (Oakland Plantation)

Total number of NRHP Eligible Sites with a *Potential* View of the Lines: 2 (Ws05 and Seaboard Coast Line Railroad Bridge-0278)

An intensive analysis of all NRHP Listed, Eligible, and Potentially Eligible cultural resources using digital viewshed modeling coupled with site visits has yielded an accurate evaluation of the visual impact that could potentially result from the replacement of the existing H-frame 115 kV transmission line structures with monopole, double-circuit 230 kV structures that will be utilized by the future Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines. The analysis concluded that three historic resources of the total number of eighteen that reside within 2 kilometers of the future line that were analyzed will have a potential view of the Lines. Of the three resources, one is predicted to have an obstructed view while the other two may have very slight views, if any, from upper-story windows within the resource. Due to restricted access, each of the three predicted view conditions are predicted from digital viewshed modeling and line-of-sight graphs. Chart 1 summarizes the predicted visual impact from the three resources that will result from construction of the Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines.

Chart 1: Viewshed Analysis Results from Historic Resources with Views of the Proposed Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines

Resource	NRHP Classification	Predicted Visual Effect of the Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines
Ws05	Eligible for Listing on the NRHP	Digital modeling shows the potential for views of the line route to the north from the fourth story window elevation located on the northeast corner of the building, which was estimated to be 40' above the ground. However, based on the architecture and staggering of the windows on the northeast corner of the building, the windows appear to be associated with an internal staircase. Because of the distance of the view to the Lines and the window's association with stairs rather than interior floor spaces, the change in view conditions from the resource compared to current conditions in the direction of the existing transmission lines will be only slightly recognizable.
Seaboard Coast Line Railroad Bridge (0278)	Eligible for Listing on the NRHP	Though visible from the railroad bridge, which is inaccessible to the public, the addition of the Lines will not significantly alter existing view conditions from the resource due to scattered foreground screening and the existing highly modified view conditions.
Oakland Plantation	Listed on the NRHP	No views are expected from the yard area. Views from the second story, if any, will be heavily filtered by the tree canopies within the yard area and are not expected to be evident to the casual viewer within the house due to filtered screening of foreground tree canopies and a distance of just under one mile.

For further clarification on the extent of the potential line visibility from individual historic resources, refer to the detailed description of the resources in Sections V, VI, VII, and VIII of this report and to Section 5.9 (Cultural Resources) of the *Transmission Line Siting and Environmental*

Report for the Graniteville #2 - South Augusta 230 kV Tie Line and Urquhart - Graniteville 230 kV Line and Associated Facilities.

Exhibit No. ____ (NVB-1)

APPENDIX A

References

"Aiken Winter Colony Historic District I, Aiken County (Aiken)." *SCDAH*. N.p., n.d. Web. 30 June 2014.

"Graniteville Historic District, Aiken County (Graniteville)." *SCDAH*. N.p., n.d. Web. 30 June 2014.

"Oakland Plantation, Aiken County (2930 Storm Branch Rd., (Beech Island Vicinity)." *SCDAH*. N.p., n.d. Web. 30 June 2014.

Stallings, L. Patricia. "Literature Review and Windshield Reconnaissance for the Urquhart-Graniteville 230 KV Siting Study." Letter to Nathan Bass. 21 May 2014. MS. Atlanta, Georgia.

"The Cedars, Aiken County (U.S. Hwy. 278, Beech Island)." *SCDAH*. N.p., n.d. Web. 30 June 2014.

"The National Register of Historic Places." *Http://www.nationalregister.sc.gov*. N.p., n.d. Web.

"Warrenville Elementary School, Aiken County (115 Timmerman St., Warrenville)." *SCDAH*. N.p., n.d. Web. 30 June 2014.

Data Sources

Brockington & Associates, LLC. UCS_Urquhart_Graniteville_shapefiles_WGS1984. 21 May 2014. Raw data. N.p.

USDA. 10 Meter DEM. 2000-present. Raw data. N.p.

USDA Ortho Imagery. 2013. Raw data. USDA Data Gateway, n.p.

USDA Ortho Imagery. 2015. Raw data. USDA Data Gateway, n.p.

Exhibit No. ____ (NVB-1)

APPENDIX B

Visual Impact Assessment Chart

Table 1: Visual Impact Assessment Chart of Historic Resources Determined to Have a Potential View of the Proposed Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines

Resource	NRHP Recorded Status	Windshield Survey Determination	BLM Total Scenic Quality Score ¹	Resource Specific View Location	Distance from Future Lines (Miles)	Are Views from the Resource Currently Modified by Transmission Lines on the Right-of-Way Over Which the Future 230 kV Lines Will Run?	View Condition ²	Likely Visual Effect of Future 230 kV Lines
Ws05	Eligible	Eligible	6	Estimated 4th story window	1.14	Existing conductors are slightly visible crossing US Hwy 78	No Visual Effect	Digital modeling shows the potential for views of the line route to the north from the fourth story window elevation located on the northeast corner of the building, which was estimated to be 40' above the ground. However, based on the architecture and staggering of the windows on the northeast corner of the building, the windows appear to be associated with an internal staircase. Because of the distance of the view to the Lines and the window's association with stairs rather than interior floor spaces, the change in view conditions from the resource compared to current conditions in the direction of the existing transmission lines will be only slightly recognizable.
Seaboard Coast Line Railroad Bridge (0278)	Eligible	Eligible	8	North bank of Savannah River	0.08	Existing power generation structures and electric transmission facilities are visible and provide a highly modified viewshed of the proposed lines.	Low-Moderate Effect	Though visible from the railroad bridge, which is inaccessible to the public, the addition of the Lines will not significantly alter existing view conditions from the resource due to scattered foreground screening and the existing highly modified view conditions.
Oakland Plantation	Listed	Listed	9	Estimated 2nd story window	0.82	Not recognizable	No Visual Effect	No views are expected from the yard area. Views from the second story, if any, will be heavily filtered by the tree canopies within the yard area and are not expected to be evident to the casual viewer within the house due to filtered screening of foreground tree canopies and a distance of just under a mile.

1. Each of the historic resources that were determined to have a potential view of the lines' route were analyzed for scenic quality relative to the scoring metric developed by the Bureau of Land Management. The cultural resource BLM scores are independent, and have no direct relationship to the BLM study performed on the study area as a whole.

2. View condition references *Table 2*.

APPENDIX C

View Condition Matrix

Table 2: View Condition Matrix of Historic Resources Determined to Have a Potential View of the
Proposed Graniteville #2 - South Augusta / Urquhart - Graniteville 230 kV Lines

Distance From Resource (Miles)	VIEW CONDITION																			
	Open View of Skylined Structures				Open View of Structures Against Terrain or Vegetative Backdrop				View or Recognition of Structures Somewhat Diffused By Mid-Ground and/or Foreground and/or Background Elements				View or Recognition of Structures Substantially Diffused By Mid-Ground and/or Foreground and/or Background Elements				View of Structures Through Mid-Ground and/or Foreground Elements Will Be Very Slight, and/or Structures are Effectively Indistinguishable Against Background Elements			
	SITING AND CONSTRUCTION																			
	Proposed Line Not Parallel to Existing Electrical Line	Proposed Line Parallel to Existing Electrical Line(s)	Proposed Line Overbuilt Onto Existing Electrical Line	Proposed Line Replaces Existing Electrical Line	Proposed Line Not Parallel to Existing Electrical Line	Proposed Line Parallel to Existing Electrical Line(s)	Proposed Line Overbuilt Onto Existing Electrical Line	Proposed Line Replaces Existing Electrical Line	Proposed Line Not Parallel to Existing Electrical Line	Proposed Line Parallel to Existing Electrical Line(s)	Proposed Line Overbuilt Onto Existing Electrical Line	Proposed Line Replaces Existing Electrical Line	Proposed Line Not Parallel to Existing Electrical Line	Proposed Line Parallel to Existing Electrical Line(s)	Proposed Line Overbuilt Onto Existing Electrical Line	Proposed Line Replaces Existing Electrical Line	Proposed Line Not Parallel to Existing Electrical Line	Proposed Line Parallel to Existing Electrical Line(s)	Proposed Line Overbuilt Onto Existing Electrical Line	Proposed Line Replaces Existing Electrical Line
	NET VISUAL IMPACT																			
0 - 1/8	VH	MH	M	LM	H	M	LM	VL	MH	LM	L		LM	VL			VL			
1/8 - 1/4	H	M	LM	L	MH	LM	L		M	L			VL							
1/4 - 1/2	M	L	L	L	M	L			LM											
1/2 - 3/4	L	L	L	VL	L															
3/4 - 1	L	VL	VL	VL																
1 - 1 1/4	VL	VL																		

CODE	NET VISUAL IMPACT DESCRIPTIONS
VH	Very High: Project element(s) will be very dominant in the view because of proximity to the view point and/or the number of elements viewed; because their setting in the landscape commands strong visual attention; because of their sharp contrast with existing elements in the landscape; or a combination of these factors.
H	High: Project element(s) will be dominant in the view because of their perceived size from the view point and/or the number of elements viewed; because their setting in the landscape commands strong visual attention; because of their evident contrast with existing elements in the landscape; or a combination of these factors. The elements of the existing landscape context will continue to be a strong influence in the view shed.
MH	Moderate-High: Project element(s) and the surrounding landscape character will command approximately equal visual attention in the view and the evident contrast with existing elements in the landscape will be somewhat mitigated by various factors such as the presence of similar elements now existing in the view.
M	Moderate: Project element(s) will be slightly subordinate to existing elements of the landscape and will not significantly alter the existing landscape character or significantly contrast with existing elements in the landscape.
LM	Low-Moderate: Project element(s) will be easily recognized in the landscape but will command very little attention in the view. Project elements will have very little, if any, contrast with existing elements in the landscape.
L	Low: Project element(s) will be visible but will be completely subordinate to the broader context of the landscape. Project elements will have no recognizable contrast to existing elements in the landscape.
VL	Very Low: Project element(s), though possibly visible, will not have adverse effects on view quality because of their lack of visual recognition due to partial screening, distance from the viewer or a combination of these factors.
	No Visual Effect

CODE	HISTORIC RESOURCE
	Ws05
	Seaboard Coast Line Railroad Bridge (0278)
	Oakland Plantation